Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-19. (canceled)

20. (original) A kit comprising:

a first oligonucleotide primer comprising (i) a 3' terminal nucleotide sequence that anneals to a sample single-stranded nucleic acid molecule and serves as the origin of synthesis for synthesizing a first single-stranded nucleic acid molecule complementary at least in part to the sample single-stranded nucleic acid molecule, and (ii) a 5' terminal nucleotide sequence that is complementary to an arbitrary region of the first single-stranded nucleic acid molecule;

a second oligonucleotide primer comprising a nucleotide sequence which anneals to a region of the sample single-stranded nucleic acid molecule located 3' to where the first oligonucleotide primer anneals thereto;

a third oligonucleotide primer comprising (i) a 3' terminal nucleotide sequence that anneals to the first single-stranded nucleic acid molecule prepared using the first oligonucleotide primer and serves as the origin of synthesis for synthesizing a second single-stranded nucleic acid molecule complementary at least in part to the first single-stranded nucleic acid molecule, and (ii) a 5' terminal nucleotide sequence that is complementary to an arbitrary region of the second single-stranded nucleic acid molecule;

a DNA polymerase having strand displacement activity; and

one or more nucleotides which are used by the DNA polymerase to extend the primers.

21. (original) The kit according to claim 20 further comprising:

a fourth oligonucleotide primer comprising a nucleotide sequence which anneals to a region of the first single-stranded nucleic acid molecule located 3' to where the third oligonucleotide primer anneals thereto.

22. (original) The kit according to claim 20 further comprising:

a detector for detection of a product of nucleic acid synthesis prepared using the remaining components of the kit.

23-53. (canceled)

54. (new) A method of synthesizing a nucleic acid molecule comprising:

A) mixing the following components with sample nucleic acid as a template:

a first oligonucleotide primer comprising (i) a 3' terminal nucleotide sequence that anneals to a sample single-stranded nucleic acid molecule and serves as the origin of synthesis for synthesizing a first single-stranded nucleic acid molecule complementary at least in part to the sample single-stranded nucleic acid molecule and (ii) a 5' terminal nucleotide sequence that is complementary to an arbitrary region of the first single-stranded nucleic acid molecule;

a second oligonucleotide primer comprising a nucleotide sequence which anneals to a region of the sample single-stranded nucleic acid molecule located 3' to where the first oligonucleotide primer anneals thereto;

a third oligonucleotide primer comprising (i) a 3' terminal nucleotide sequence that anneals to the first single-stranded nucleic acid molecule prepared using the first oligonucleotide primer and serves as the origin of synthesis for synthesizing a second single-stranded nucleic acid molecule complementary at least in part to the first single-stranded nucleic acid molecule and (ii) a 5' terminal nucleotide sequence that is complementary to an arbitrary region of the second single-stranded nucleic acid molecule;

a fourth oligonucleotide primer comprising a nucleotide sequence which anneals to a region of the first single-stranded nucleic acid molecule located 3' to where the third oligonucleotide primer anneals thereto;

a DNA polymerase having strand displacement activity; and

one or more nucleotides which are used by the DNA polymerase to extend the primers; and

B) incubating the mixture at such a temperature that the nucleotide sequence constituting the first and third oligonucleotide primers can form stable base paring with the template.

55. (new) The method of claim 54, wherein the mixture further comprises a regulator for melting temperature.

56. (new) The method of claim 55, wherein the regulator for melting temperature is betaine.

57. (new) The method of claim 56, wherein 0.2 to 3.0 M betaine is present.

58. (new) The method of claim 54, wherein the mixture further comprises a detector for detection of a product formed by said mixing of step A) and said incubating of step B).

59. (new) The method of claim 54, wherein the sample nucleic acid is RNA, and the DNA polymerase has reverse transcriptase activity.